## What is claimed is

1. A method for determining a current supplied by an integrated circuit comprising:

determining a voltage drop across a termination impedance with respect to a reference voltage;

comparing a voltage drop across a first impedance on the integrated circuit with a voltage drop across a second impedance on the integrated circuit; and

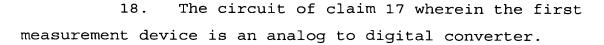
processing information obtained in the determining and comparing steps to obtain a value for the supplied current.

- 2. The method of claim 1 wherein the processing further comprises calculating current in the termination impedance based on information obtained in the determining step.
- 3. The method of claim 2 wherein the processing further comprises relating current in the termination impedance with a sourcing current supplied by the integrated circuit.
- 4. The method of claim 1 wherein the comparing further comprises dividing the voltage drop across the first impedance by the voltage drop across the second impedance.
- 5. The method of claim 1 further comprising determining an impedance value of the first impedance.

- 6. The method of claim 5 further comprising determining an impedance value of the second impedance.
- 7. The method of claim 6 further comprising dividing the value of the first impedance by the value of the second impedance.
- 8. The method of claim 1 further comprising determining the voltage provided by the voltage reference.
- 9. The method of claim 8 further comprising dividing the value of the voltage drop across the termination impedance by the value of the reference voltage.
- 10. The method of claim 8 further comprising determining an impedance value of the termination impedance.
- 11. The method of claim 10 further comprising dividing the value of the reference voltage by the value of the termination impedance.
- 12. The method of claim 1 wherein the processing further comprises multiplying the values determined in claims 4, 7, 9, and 11.
- 13. The method of claim 8 further comprising dividing the value of the voltage drop across the first impedance by the value of the reference voltage.

- 14. The method of claim 8 further comprising dividing the value of the voltage drop across the second impedance by the value of the reference voltage.
- 15. The method of claim 1 wherein the processing further comprising dividing the values determined in claims 13 and 14.
- 16. The method of claim 1 wherein the processing further comprising multiplying the values determined in claims 7, 9, 11, and 15.
- 17. A circuit that determines a current supplied by an integrated circuit comprising:
- a sensing impedance disposed on the integrated circuit;
  - a modulation impedance;
- a first measurement device coupled to the modulation and sensing impedances configured to measure voltage drop across each impedance;
  - a termination impedance;
- a second measurement device coupled to the termination impedance configured to measure voltage drop across the termination impedance; and

processing circuitry configured to receive information from the first and second measurement devices and calculate supplied current therefrom.



- 19. The circuit of claim 17 wherein the second measurement device is an analog to digital converter.
- 20. The circuit of claim 18 wherein the second analog to digital converter further comprises a trimmed voltage reference.
- 21. The circuit of claim 17 wherein the termination impedance is a precision resistor.
- 22. The circuit of claim 21 wherein the termination resistor is an external resistor.
- 23. The circuit of claim 21 wherein the termination resistor is a resistor internal to the integrated circuit.
- 24. The circuit of claim 17 further comprising a sinking circuit coupled to the modulation resistor.
- 25. The circuit of claim 17 wherein the supplied current is a modulation current.
- 26. A circuit that determines a current supplied by an integrated circuit comprising:
- a sensing impedance disposed on the integrated circuit;

- a modulation impedance;
- a first measurement device coupled to the sensing impedance configured to measure a voltage drop across the sensing impedance;
- a second measurement device coupled to the modulation impedance configured to measure voltage drop across the modulation impedance;
  - a termination impedance;
- a third measurement device coupled to the termination impedance configured to measure a voltage drop across the termination impedance; and

processing circuitry configured to receive information from the first, second, and third measurement devices and calculate supplied current therefrom.

- 27. The circuit of claim 26 wherein the first measurement device is an analog to digital converter.
- 28. The circuit of claim 26 wherein the second measurement device is an analog to digital converter.
- 29. The circuit of claim 26 wherein the third measurement device is an analog to digital converter.
- 30. The circuit of claim 26 wherein the second analog to digital converter further comprises a trimmed voltage reference.
- 31. The circuit of claim 26 wherein the termination impedance is a precision resistor.

- 32. The circuit of claim 26 wherein the termination impedance is a switched capacitor circuit.
- 33. The circuit of claim 31 wherein the termination impedance is an external resistor.
- 34. The circuit of claim 26 further comprising a sinking circuit coupled to the modulation impedance.
- 35. The circuit of claim 26 wherein the supplied current is a modulation current.